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10/810,035	03/26/2004	Albert S. Weiner	ATM-291	8458
3897	7590	06/28/2007		
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SAN JOSE, CA 95109-0005				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/810,035

Applicant(s)

WEINER, ALBERT S.

Examiner

Thanh T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-30 is/are pending in the application.
- 4a) Of the above claim(s) 11-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This is in response to Applicant's Communication filed April 9th 2007

Note that the figures and reference numbers referred to in this Office Action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

2. Claims 1,3-30 are pending in the Application with claims 11-30 withdrawn from consideration.

3. **Applicant's amendments to independent claims 1 have necessitated new grounds of rejection for claims 1,3-10. See MPEP § 706.07(a).**

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1, is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicant introduces new matter by reciting – “ user programmable select transistor “—there is no user programmable select transistor described in the original specification.

6. Claims 3-10 are rejected under 35 U.S.C. 112, first paragraph for their dependence on claim 1.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recitation of “ user programmable “ in claim 1 make the claim indefinite because it is not possible to know what user that Applicant wants to specify. Is the user being referred to the manufacturer or the second vendor device ? is it being referred to the field people or the regular consumer ?

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9. Claims 3-10 are rejected under 35 U.S.C. 112, second paragraph for their dependence on claim 1.

10. To expedite the prosecution of the Application. The Examiner assume that the Applicant will correct the claims to make them in compliance with 35 U.S.C. first and second paragraph and will examine the claims as best as the examiner can understand them.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

12. Claims 1,3-4,6,9-10 are rejected under 35 U.S.C. §102(e) as being anticipated by Lee et al. (U.S. Patent 6,687,154)

With regard to claim 1, Lee (in fig 7B,fig 7D, in fig 9) discloses a transistor memory array comprising:

a first plurality of non-volatile user programmable (fig 7B, transistors 70a and 70b) memory cell including a memory transistor and a select transistor and a second plurality of mask programmed read-only memory cells(fig 7D, transistors 70a and 70b) including a memory transistor and a select transistor , the non-volatile memory cells and the read-only memory cells having the same area footprint within a single memory array (column 13 line 13-32).

Noted that Lee discloses a Mask ROM cell and a Flash cell (i.e. user programmable non-volatile cell) using the same process and by shorting the control gate and the floating gate of the Flash cell to make a Mask Rom cell, therefore the two cells inherently have the same footprint and the same area footprint. Noted that transistor 70b in fig 7B and 7D (column 6 line 5) can be used as select transistors.

With regard to claim 3, Lee discloses (in fig 4,column 6 line 5) a memory array wherein the footprint has a longitudinal dimension and a width dimension that are the same for both the first and second pluralities of memory cells. with the select transistor (fig 7B and fig 7D transistor 70b) and memory transistor having a common electrode in each memory cell.

Noted that in fig 7B and 7D the common electrode is the common Source and Drain (fig 7B and Fig 7D reference 78)

With regard to claim 4, Lee discloses (in column 13 lines 1-12) a memory array wherein the read-only memory cells including cells having transistors with substrates having open channels and cells having substrate with shorted channel.

noted that Rom cell in Lee disclosure can be closed or open using boron implantation (i.e. either the channel is not implanted by boron or implanted by boron dopant, Lee reference column 6 lines 13-15, column 8 line 51-54)

With regard to claim 6, Lee discloses (in fig 6) a memory array of claim wherein the second plurality of read-only memory cells is grouped into rows.

With regard to claim 9, Lee discloses (, fig 7D, column 13 lines 1-12) a memory array wherein the channels in the read-only memory cell are defined by a buried depletion implant in said substrate, the extent of the implant defining open and shorted channels.

With regard to claim 10, Lee discloses (fig 7B, in fig 9, column 6 line 37) a memory array wherein said non-volatile memory transistors are EEPROM transistors.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US patent 6,687,154)

With regard to claim 7,8 as set forth in the rejection of claim 6, Lee discloses all the invention of claim 7 and claim 8 except for the condition of programming wherein the group of ROM cells has a first subgroup of Memory cells at least one row in first logic state and a second subgroup of memory cells in at least one row second logic state. It would have been obvious to one of ordinary skill in the art the time the invention was made to set the condition of programming wherein the group of ROM cells has a first subgroup of transistors at least one row in first logic state and a second subgroup of transistors in at least one row second logic state in the Lee device since it has been held that the provision of adjustability when needed, involves only routine skill in the art (Noted that the adjustability skill in this case is a mere routine programming skill of a mask ROM (i.e. set one or set zero) during production to adjust to a particular application, also noted that Lee invention is highly flexible (column 13 lines 48-53) and can be applied to multiple applications(column 1 lines 27-40). Noted that it has been held that the provision of adjustability when needed , required only routine skill in the art. In Re Steven, 101 USPQ 284 (CCPA 1954)

15. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (U.S. patent 6,687,154) in view of Hsu et al. (U.S. patent 6,822,286).

With regard to claim 5, as set forth in the rejection of claim 1, Lee discloses all the invention including a non-volatile memory cell (Lee fig 7B) that has two poly layers except for specifically discloses a read only memory cell that have one poly layer.

Hsu , however, discloses a read only memory cell that has one poly layer.(Hsu fig 2)

It would have been obvious to one of ordinary skill in the art the time the invention was made to incorporate this feature, as taught by Hsu, into the Lee device and come up with the invention of claim 5.

The rationale is that both Hsu and Lee are in the same field of endeavor covering the same subject matter of making non-volatile memory and read only memory.

16. Applicant's arguments with respect to claims 1,3-9 , filed April 9th 2007 have been fully considered but they are not persuasive.

The first main argument is that Lee 154 does not discloses a select transistor. The Examiner respectfully disagrees, noted that Lee 154 discloses two transistors memory arrays with highly flexible design with one of the transistor fully capable of being the select transistor.

The second argument is that Lee two non-volatile memory cells and read only memory cells do not have the same footprint. Again , the Examiner respectfully disagrees.

Note that Lee illustration in fig 7A to 7D inherently discloses that the memory cells have the same footprint. Also note that Lee invention has the goal of ease of manufacturing (column 3 lines 45-50) and imply that Lee invention provide the same cells footprint that can latter be configured as desired (fig 7A to 7d and thorough Lee disclosure)

CONCLUSION

17. THIS ACTION IS MADE FINAL. Applicant's amendments to independent claim 1 have necessitated new grounds of rejection for claims 1,3-10 and therefore this action is made final. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thinh T Nguyen whose telephone number is 571-272-1790. The examiner can normally be reached on 9:30 am - 6:30 pm Monday to Friday..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEVEN LOKE can be reached on 571-272-1657. The fax phone numbers for the organization where this application or proceeding is assigned is 571-273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval [PAIR] system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/TTN/

Thinh T Nguyen
Patent Examiner
Art Unit 2818

STEVEN LOKE
SUPERVISORY PATENT EXAMINER

